



e - δ ialogos

SHARING CONSERVATION

annual digital journal on research in conservation and cultural heritage



e-dialogos

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e-dialogos is a new annual online journal on research in conservation and cultural heritage born to offer both young and experienced professionals a forum to express and discuss new ideas on conservation. The first number, focused on Sharing Conservation, embraces a concept that we would like **e-dialogos** to emulate: a space for debate on what is happening in the conservation field around the world.

This number includes an article on conservation policies in Palestine by archaeologist **Mazen Iwais**, who states the problem of conservation focused on urban milestones, which take into account the entire urban context, as well as the local community problems. After a decade of conservation interventions, which have allowed saving some of the most important Palestinian historical buildings, M. Iwais points out the necessity of enlarging the scope and thinking at a larger scale, even within a complex political situation.

Another contribution focuses on a methodological approach for architectural conservation. Architect **Pablo Latorre** presents an analytical method, emphasizing the need to thoroughly understand the various historical phases and transformations these buildings have undergone. This can be achieved adapting methodologies from the field of archaeology. P. Latorre describes the life of a building, from its original construction to its modification caused by use, change of styles or derived from past conservation interventions, as a process of historical

loss, consolidation and superposition of old and new elements, all of which will inform and guide any new treatment.

Moving into the new technologies sector, architect and art historian **Lucía Gómez-Robles** raises an important question on the real contribution of new techniques coming into the scene when designing dissemination strategies at heritage sites. L. Gómez-Robles analyses examples of technological display used for dissemination and she comments on visitors' reactions. Her analysis offers interesting insights into the benefits of both traditional and high-tech methods used at various sites. She soundly suggests never to forget the focus on objectives of dissemination, before choosing specific tools. It should be a clearly devised strategy that dictated which are the best methods available to convey different messages, which may be new techniques or not.

These three proposals discuss current problems in conservation stressing the ever present need for accurate and scientific preliminary studies, prior to undertaking conservation projects; the importance of the urban and landscape context and the local community when planning conservation interventions; and the necessity of designing coherent and useful dissemination strategies in a moment where we run the risk of getting fascinated by amazing technologies developing all around us.

Another contribution describes the guidelines followed in the projects carried out by DIADRASIS which becomes operational in 2011, both with the launch of e-δialogos, as well as with a first training workshop, to be held in the Greek island of Zakynthos. Conservator **Laura-Melpomeni Tapini** describes the aims and objectives of this newly created non-profit organization dedicated to interdisciplinary research in Archeological & Architectural Conservation.

The last section of e-δialogos proposes a thematic article called 'My favorite...' which will be dedicated to outstanding pieces of architecture, archeological sites, conservation interventions, or any other topic

related to heritage depending on contributors' preferences. This section is inaugurated by **Dr. Peter Gouldsborough**, who presents an 18th Century Neoclassic temple in Duncombe Park, Yorkshire (UK), as his favorite building in the middle of a picturesque landscape.

We are at the very beginning of this 'sharing conservation' initiative, which we hope will prosper and continue offering a free space to keep sharing experiences and ideas in the future.

31 August 2011

Valerie Magar



Editor-in-chief

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FROM IDEAS TO ACTION: THE BIRTH OF DIADRASIS

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Almost two years after the wind of change was brought to our lives by the birth of this team, I came to face this great challenge: to put into paper emotions and reminiscences, presenting how and why this team was built and, most important, where its vision is taking it.

For those of you who had the great opportunity to experience an international environment, whether for work, study or leisure, the things I am about to say will be nothing new. In the most welcoming warm environment of an ICCROM¹ course² we, participants and staff, had once again the joy of discovering differences and similarities with colleagues from all over the world. Almost every day, once the training activities were completed and definitely promoted by the great Italian practice of the afternoon *aperitivo*, we kept discussing and exploring each other's worlds, widening our minds and discovering how many more answers exist for each of our problems. The course was about to finish when a group from among these people realized they did not want all this to end; we wanted to keep it alive, transmit it around and make it grow.

The proverb goes, every end a new beginning. We, heading for our beginning, found a strong partner to

make the proverb come true: nothing less than the much discussed technology! We all went back to our home countries, a fact that in earlier times would be a great obstacle, but was now just a small detail. We sat back at our offices and kept exchanging ideas on how to move on, initially by lots of MB attached in e-mails, then with instant messaging and social media platforms. Unbelievable; we were, and still are, more updated on our friends' lives on the other side of the earth than on our colleagues' next door. We knew then that the working team we wanted to build could work to perfection.

The next crucial point was to focus on how exactly we wanted to work, and which would be the main goal of all this effort. Yes, we wanted different cultures and specialties to meet and keep developing Conservation Science, but in what way? Long discussions, several propositions and ideas led us to the following priorities: educational courses and conferences, publishing activities, events raising public awareness and the actual conservation/restoration intervention of heritage, always performed by interdisciplinary international teams.

Having focused on the importance of interaction as the key element for all our activities, the name came in

¹ ICCROM: International Center for the Study of the Restoration and Preservation of Cultural Property, Intergovernmental organization founded in Rome in 1959 currently with 129 member states.

² ARIS 09: Architectural Records, Inventories and Information Systems for Conservation, Rome, 2 September - 2 October 2009



an instant. The Greek word for interaction, *διάδρασις*, reflected exactly what we wanted to be: an interactive pole for developing and promoting research in conservation science. The “delta” embraced the bird of knowledge and we felt ready to open our wings and start flying.

So, we had cleared our ideas, we had the technology; we had the passion, the inspiration and the know-how. But in what way do we actually formalize our idea, how do we become a real organization? The answer, as the Beatles told us many years back, was simple: “with a little help from my friends”. Actually the faith and dedication of people not related to the Heritage Field gave the boost to the engines; lawyers, accountants, consultants, medical doctors, web designers and any other specialty you could dream of are hidden behind the birth of diadrasis. I will actually take the opportunity, with this article, to thank them once again for believing in us and making all this happen. Before the end of that same year the statute of diadrasis was registered in the registry of the Court of First Instance of Athens, and so we could finally start working. We were no longer an idea; we were an entity.

We decided to plan our first activity, a workshop for young professionals from all over the world, with an international teaching team. What we wanted to create was an educational workshop that would reflect our main philosophy; interaction as a synonym of development. To do that we planned a project based workshop: it would take place on a small scale building, allowing participants to actually put their theoretical skills in action on all the phases and tasks of an architectural conservation project. The case study site was found on the island of Zakynthos in Greece. We started planning, were honored with the acceptance by prominent teachers to participate in the academic team; we decided to keep strong even though the workshop was planned in a country in the middle of its worst crisis, so we fixed the date and went online. And there we had our first real victory: we, a newly founded organization, received many applications from ten different countries. So our first pilot activity, the Romiri project, with international professionals and participants is finally *ante portas*.

Along with the above-mentioned activity, some of our members are focused on creating our web journal. We realized that a journal could become another excellent exchange tool, where professionals could publish their ideas and experiences. In the spirit of the times,

we decided to keep only a web format, basically for two reasons. First, a web publication provides easier access to anyone wishing to read it, while a printed distribution would only reach few selected points. And of course the second reason, however, is nothing less than the respect for the environment.

There are many new ideas already on the table for our future activities, and I am certain that if we keep

the spirit up and open, we could see many of these materialize. What we really wish for our organization is to become the core for a continuously expanding team of interacting experts of various nationalities. I strongly believe that, by trying to move beyond limits and fixed practices, we could become fertile ground, open to global knowledge, contributing to the development of ourselves and our sciences.





Fig. 1. Roman tower of Hercules, La Coruña, Spain

THE TRANSFORMATION PROCESSES OF ARCHITECTURE THROUGH TIME. METHODOLOGICAL AND THEORETICAL CONSEQUENCES IN THE PROJECT AND IN THE RESTORATION WORKS¹

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Architecture suffers a continuous process in time of elimination (-), conservation (=) and overlapping (+) of construction materials, that are removed or kept in its original position according to the successive modifications the vitruvian variables (shape, function and construction) acquire to adapt to the environment (natural and human) in which they are located. This continuous process of transformation of architecture through time causes the stratification of the construction materials setting it as the most complex object of the material culture of a society. The restoration project will equip the monument with its last constructive stratum thereby constituting the last phase of this process.

Keywords:

archaeology – heritage – history – transformation – project

1. Fahrenheit 451

“- How many of you are there?

-Thousands on the roads, the abandoned rail-tracks, tonight, bums on the outside, libraries inside. It wasn't planned, at first. Each man had a book he wanted to remember, and he did. Then, over a period of twenty years or so, we met each other travelling, and got the loose network together and set out a plan. The most important single thing we had to pound into ourselves is that we were not important, we mustn't be pedants; we were not to feel superior to anyone else in the world. We're nothing more than dust jackets for books, of no significance otherwise.” (BRADBURY, 1953: 153)

I would like you to remember Ray Bradbury's novel “Fahrenheit 451”, from which this text has been extracted or the movie by F. Truffaut based on it. In both of them a future world dominated by mass media is depicted, where writing and lecture are prohibited. To enforce that law, there existed a force of fire-fighters whose task was burning all the books that were requisitioned and arresting their owners.

To remedy this cultural catastrophe, a small group of outlaws had decided that in order to conserve and preserve into the future the literature from the past, each member should memorize his favourite book and adopt as his clandestine name the title of the book they

had chosen. This book should be transmitted orally, from father to son, so that each family guaranteed its conservation through time.

2. Memory and the evolution of the book-keepers society

Let's imagine for a moment this small, un-submissive society, after a lot of generations have passed on. We must deduce that finally no printed book would exist and that the majority of books would have disappeared forever, as only the ones chosen by the book-keepers would remain, conserved in their memory. From that moment on, some texts would also disappear. On the other hand the impossibility for the book-keepers to make a contrast between their memory and the original written text would establish a relation of dependence between the transmitted text and the person in charge of its preservation, as each of the book-keepers would not have any other reference but his own memory.

At some point in this process it would be inevitable that some of these book-keepers forgot a portion of the text. We can imagine this person reconstituting the forgotten portion for not disrupting the recitation and giving some unity to the global comprehension of its narration. It is also possible that some of these people

¹ Revised and published in 2002, *Quaderns Científics i Tècnics de Restauració Monumental 13, I Bienal de la Restauración*, Barcelona: 161-177. Translated by Nicolás Latorre Gende.



Fig. 2. Poster of the film 'Fahrenheit 451' directed by François Truffaut

would consciously modify some paragraphs that were not of his liking, thus impoverishing or enriching the original text. We can safely say that, over time and parallel to the evolution of the book-keepers society, the original text would suffer a slow transformation process.

Generation after generation each of these people relying on their memory, on their capacities and imagination, in a natural and unconscious way, and without premeditation, would change words, transforming and updating the memorised text. The transformation would adequate to the evolution the language that the book-keepers would have, to the personal way each of them would have to express himself, to the likes its society had in each moment of his evolution, etc. If there had existed two branches

of book-keepers that had memorized the same text, surely there would be two versions of it (as each one would have evolved differently) more extended or, with more characters in some than in others.

After a long time, in a ferocious fight against oblivion, some texts would have been modified substantially and others, in return, would be conserved largely intact. At that moment, probably no one would know which were the original words, how many of that written book –that had been burned- were conserved and how many had changed.

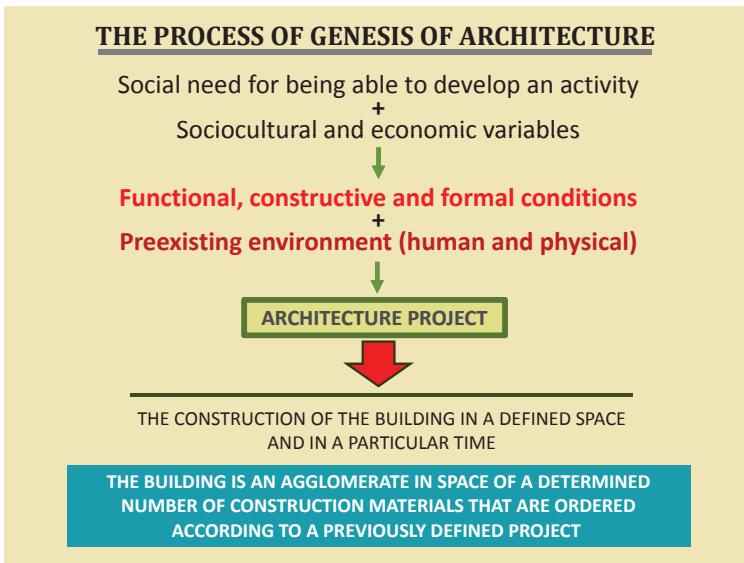
If the most outstanding quality of that text was the way the language was used, he would probably keep intact the rich and suggestive paragraphs. On the contrary, if its value was in the description of some important facts, it would have been transformed, exaggerating these facts, ennobling the heroes and debasing the wicked. Little by little, the text would have been enriched with new characters and situations until reaching the form the last book-keeper would had versioned. Despite these changes, the text would keep –with absolute certainty- its original plot and a narrative cohesion, with a coherent beginning, middle and end.

In fact, moving away from the utopian image transmitted in Fahrenheit 451, I am simply describing the usual methods that the oral transmission of epic poems had in antiquity. In the prologue that R. Graves writes in his youth version of the Trojan War, he describes this transmission mechanism in an easy way: *"Homer's poems are by no means the only source of the legend, in fact, about two thirds of this book are*



Fig. 3. Beethoven walking as a book-keeper.

Graphic 1. The process of genesis of Architecture



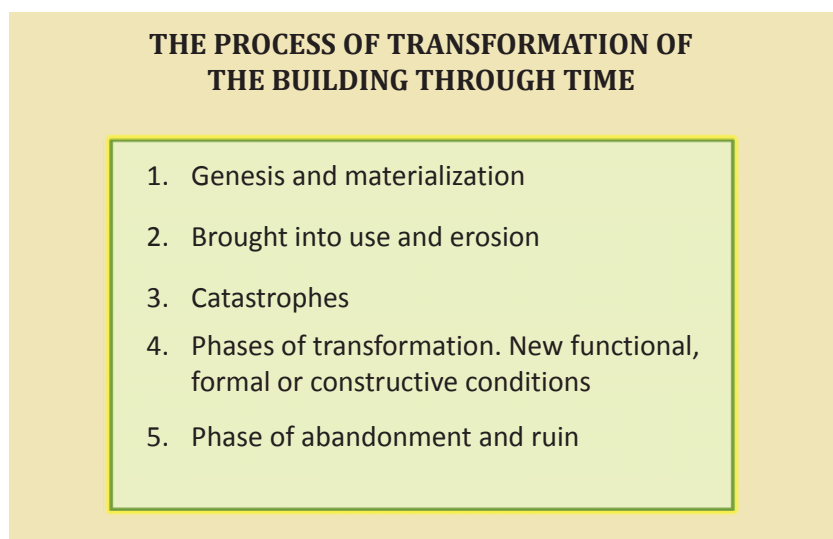
based on other Greek and Latin authors. Yet, by linking the different stories, I am surprised to discover how well they match. Much of the story has historical significance, even though Homer borrowed the escape of Paris and Helen from another epic poem, and even though the famous wooden horse was, according to some writers, only a siege engine” (GRAVES, 1999: 11).

3. The transformation processes of architecture through time

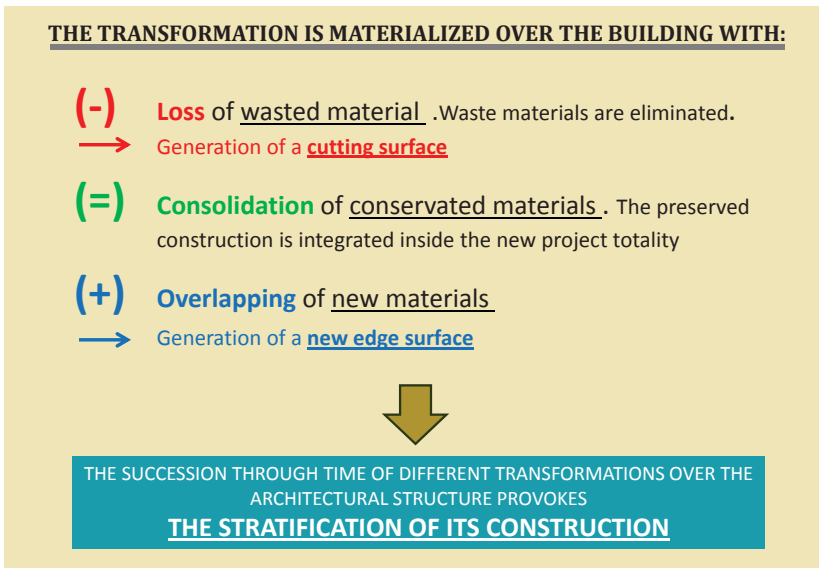
This metaphor, about the processes of transformation of texts memorized by the society of book-keepers –as Ray Bradbury had imagined- allows us to draw a parallel between these and the processes that cause the transformation of architecture through time.

In this parallelism, the words forming the sentences would be the stones that raised the walls, the stone pillars, the arches; the phrases that make up the paragraphs would be the constructive elements composing each and every part of the building, and the different chapters would be the head, the transept, the dome, the nave or the facade of our historic construction.

The text remembered by the book-keeper -transmitted orally generation after generation- would have a similar structure to the one that could show the historical building, as both of them would have suffered through time continuous transformations from their original shape; from the most simple ones, like a word or an ashlar, to the most complex like the emergence of a new character or a new chapel, the



Graphic 2. The process of transformation of the building through time



change of the end of the story or the transformation of the project that allowed to finish a cathedral tower or the palace that had been initiated around a project that had already expired. But, despite the changes, as important as they may be, the conserved historical building and the remembered text maintain an unity, as an architectural object and as a literary narration, precisely that one that society, the last book-keeper or the last restoration architect entrusted with its conservation would have imposed on it.

In order to structure the mechanisms and the transformation processes of a building through time, we can begin imagining a recently constructed building by a social group to satisfy a specific demand. The building, obviously, will be formed by an agglomeration of a determined number of construction materials in a particular manner. As we know, the characteristics, the shape and the positioning of the materials in the building will not be random and will respond to a previously established program that is the architectural project. This project has its origin in a series of necessities and socio-cultural and economic variables that can be resumed in the well-known conditions of: **function, construction and shape** attributed to Vitruvius (Lib.I, Cap.2) that had been so important in the definition of architecture.

Once the construction of the building is concluded, its success or failure will depend on its capacity to respond to the expectations created by the society that fostered it, ergo, to satisfy the functional, constructive and formal constraints that boosted its

construction. A badly projected or badly constructed building will suffer immediately the transformations needed to correct deficiencies and to accomplish the program imposed for its execution. It is possible that its pathologies will not appear immediately and that

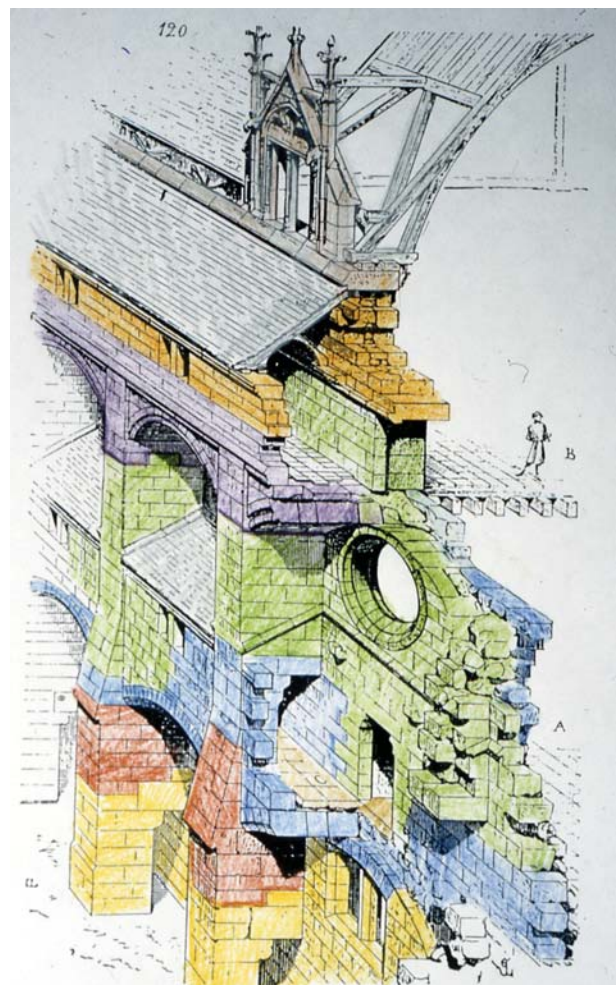


Fig. 4. Different historical stages of the building colored on a Viollet-le-Duc's drawing (VIOLLET, Book IV: Plate 120)

the project or construction deficiencies will appear afterwards. If the building does not receive the required maintenance, the interaction with its environment will finally provoke its degradation. Deterioration can also occur suddenly, through any type of disaster, such as wars, fires or floods. The passing of time will inevitably end up transforming the social group that uses the building, its numbers, its necessities and its manners, which will force the building to transform with them.

The need to transform an architectural structure appears at the moment it is proven unable to adequately satisfy the functional, constructive and formal conditions that society imposes on it, in a particular moment. In the history of a building, many small or medium transformations, like the aperture of a hole for different uses, the repair or replacement of deteriorated constructive elements; the implantation of new technical installations, etc. will happen constantly. These small modifications will be framed between changes of greater importance, such as building a new chapel, the extension of a wing cell, the construction of a new floor, and so on. Usually, the most important transformations a building suffers will match the most significant historical moments of the social group that uses it and the smaller

transformations will match the usual functioning of the building over time.

Finally, when the last social group that uses the building disappears, when there is no more use for it or when its state of degradation makes economically unviable its rehabilitation, the building will be abandoned or it will be demolished and replaced by a new one. Given the limited destructive capacity, the availability of resources and the survival over time of ancient constructive systems, it was fairly common that the materials of the abandoned building were reused in the new building and even most walls were kept in the same location if their layout matched the one of the new building. An abandoned building becomes an archaeological remain when the society loses the memory about it and of the social group which promoted it.

4. Stratification constructive mechanisms of architecture: its archaeological condition

Any transformation that is undertaken in an architectural structure, regardless of its importance, must necessarily occur with the removal of waste



Fig. 5. Wall with traces from different historic stages. Monastery of Santa María de Carracedo, León, Spain. Restoration project by Susana Mora and Salvador Pérez Arroyo.

PRINCIPLE OF MATERIALS IMMOBILITY

The movement of the materials

from the position they were once rigged provokes:

- A. The loss of the documental values associated to the set of eliminated materials
- B. The disappearance of the stratigraphic relations that maintained between them and with the materials preserved in the building

THE MOVEMENT OF MATERIAL, PROVOKES THE IMPOVERISHMENT OF THE STRATIGRAPHIC RELATIONS AND, THEREFORE, OF THE EVOCATIVE EFFECT OF THE PASSAGE OF TIME IN THE BUILDING

materials, the treatment of the materials that will remain in position and the overlap of new materials over the conserved ones. This process of constructive **elimination (-), conservation (=) and overlapping (+)** of materials is three-dimensional and will happen from the surface of the object to its core. Each action will act over the preceding one. Logically, the material remains of the oldest transformations will have less presence over time as they are the ones that suffer more transformations and therefore a more intense selection process. But it happens also that with each new transformation, the oldest materials will have proven their worth and importance in the composition and will also be more likely to be hidden and protected by materials of subsequent actions; as a result their removal will be increasingly unlikely. Over time, the historic building materials shall be placed successively one on top of another, stratified from the oldest to the most modern following the order established by the succession of transformations throughout its history.

The historic architecture is the result of an ongoing process of elimination, conservation and overlapping of new construction materials over the ones that composed the original building. The combined effect of these three constructive actions (elimination, conservation and overlapping) will provoke the stratification over time of the materials used in its construction, which gives the building its archaeological condition.

5. The principle of immobility in the materials of a historic building

The history of the buildings is the history of their transformations and the causes that provoked them,

the history of the societies that created them, their culture, their economic and social status, and there is an **unique** and **certain** relationship between its history and the “**order**” of the materials in its construction. The historical value deriving from an architecture of the past lies precisely in the links that can be established: first between the conserved materials and the order these have in the construction, based on the succession of constructive actions within the building; and, second the one that can be established between this succession of constructive actions, and the reasons and the economic, social and cultural conditions of the society which, in each historical moment, promoted those changes.

However, it will not be always possible to infer the succession of facts and events from the study of the walls and the location of the materials. Correlation between materiality, placement of the object and the succession of historical events it is not immediate. It is often full of blackouts, empty spaces and falsifications, and its interpretation requires carrying out a meticulous investigation with all the historical techniques at our disposal. Historical study of the building must contribute with a rational explanation of the succession of constructive facts which, from the placement of the foundation stone on virgin ground, have been modelling the first configuration of our building until reaching the one it has nowadays.

It is precisely at this point where the recognition of the stratified character of historical architecture opens a very important parenthesis in the methodology and research techniques. Following an archaeological methodology, the stratigraphic study allows us to obtain a chronological sequence of the construction of a historical building. The most important consequence

of this fact is that any movement or elimination of construction materials that is produced –something inevitable during a restoration process- will provoke not only the disappearance of the stratigraphic values intrinsic to those materials, but also the disappearance of the stratigraphic relations established between these materials and the ones conserved in the building. In fact, there is always a loss of time value and documental information in restored monuments, when we move the construction materials from their original placement.

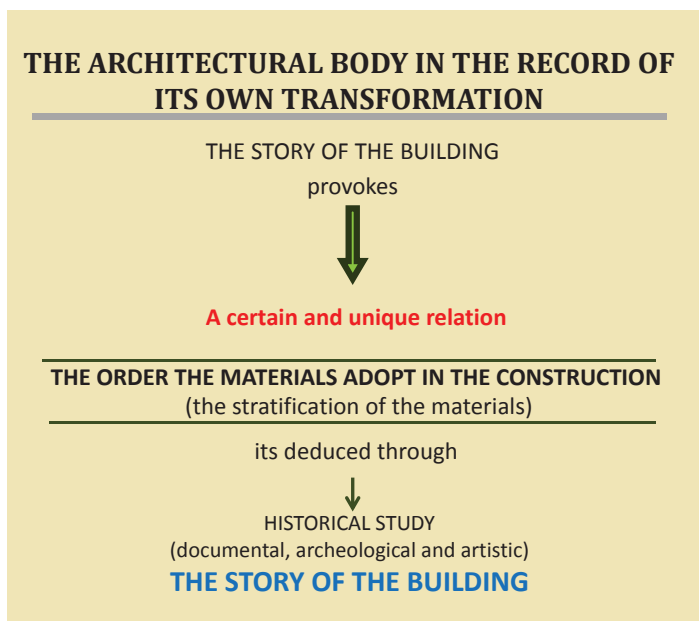
Methodologically, we can compare the destructive effects that digging a site has over the archaeological information, with the ones that a restoration process has over a historical building. With this in mind, and, from the stratigraphic point of view, in restoration we would be using the same techniques applied to the first nineteenth-century excavations, whose unique goal was to recover archaeological artefacts, and where the stratigraphic relations were essentially unknown. In this context, we have to frame the postulates of the most conservative and “Ruskinian” positions of architectural restoration which, without knowing the stratified character of architectural restoration, had recognized that the loss of documental, temporal and historical values of the monuments was related with the movement of materials and the transformation caused by restoration works.

Once we discover and accept the stratigraphic character of the constructive process of a building over time, we should establish a specific methodology that could allow us to address its “archaeological

excavation” which could allow us to work on the restoration process with all the “destructive” liberty we theoretically have when we work on a dig, as long as the eliminations which are carried out are documented and stratigraphically analyzed. The application of the stratigraphic analysis of historical construction method –systematized by the Chair of Medieval Archaeology at the University of Siena (PARENTI, 1985: 55-68; 1988: 249-279; 1995: 19-29; 1996: 13-23), and in Spain by L. Caballero (C.S.I.C.), A. Azkarate (U.P.V.) and A. L. Mullor (S.P.A.L.) (CABALLERO, 1995: 37-46; CABALLERO, 1996; AZKARATE, 1999)- is an indispensable tool to understand and study all the complexity of constructive situations that appear on a historical building; but above all, to establish a valid archaeological methodology to perform the movement, transfer and elimination phases of construction materials during restoration works.

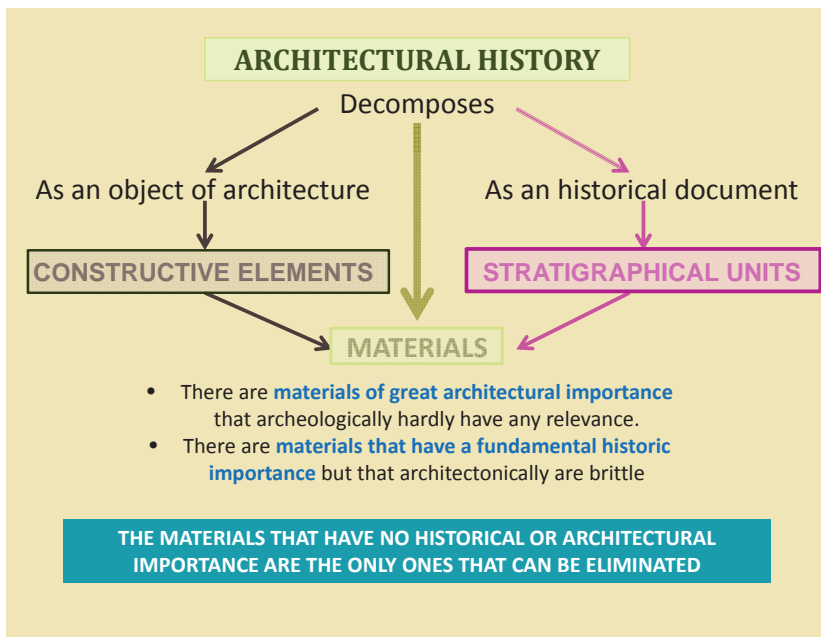
6. The double condition, historical and architectural, of both materials and the historical building

Parallel to this stratigraphic assessment of historical architecture, we must have in mind the condition of historical buildings, as architectural objects. Each transformation of a building involves the appearance of a new architecture, where the preserved materials from former transformations, together with the new materials, compose a new architectural unit that, regardless of its constructive process, will respond to the functional, constructive or formal conditions which have been imposed during the transformation. A pillar, a wall, or a dome may be formed with materials of



Graphic 5. The architectural body in the record of its own transformation

Graphic 6. Architectural history and materials



different historical periods but they fulfil a determined architectural role that has become established in the last transformation of the building.

Thus, the materials that form a historical building have two conditions: the architectural (the ashlar is a part of the pillar) and the historical (the ashlar was placed in a particular historic moment). This double condition may provoke that some materials, with no architectural relevance at all, may own a fundamental historical importance, since they represent the last testimony of a particular transformation of the building which, inevitably, will disappear as the material vanishes from its placement. In a parallel manner, there are some materials with a key architectural importance that however have hardly any historical value.

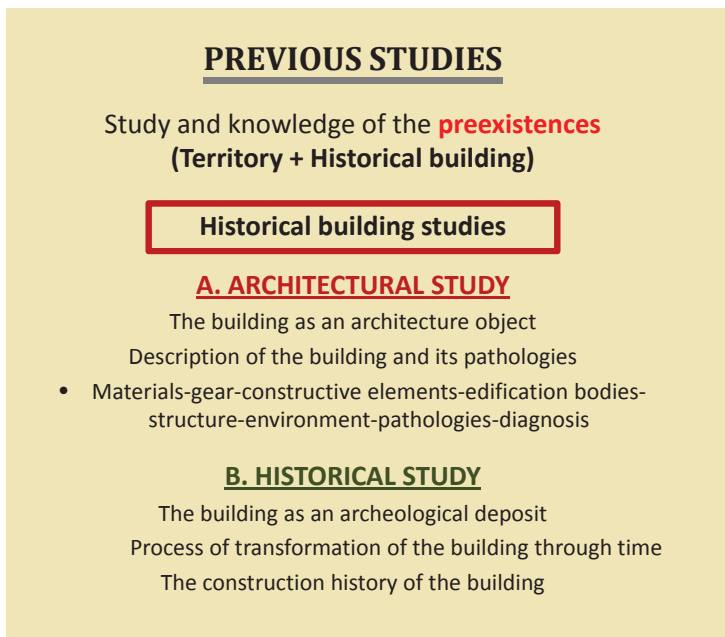
This duality of materials and the architectural object itself that, simultaneously make it an object of architecture and an archaeological excavation, has caused many of the conflicts and controversies that have marked the history of architectural restoration. The building as a historical document and as an archaeological excavation, cannot and should not be altered or modified; however, in its condition of architectural object, it must necessarily be renewed and transformed in a continuous way, to respond to the physical and human environment in which it is framed. As discussed in the previous part, the recognition of the layered character of historical architecture opens a methodological approach with which we can resolve this dilemma –with no apparent solution- as it allows us to use archaeological techniques with the loose

construction material that is produced during the restoration process.

However, in order to “project” these losses and tackle them during the work phase of the “archaeological excavation” of the monument, it is essential that, in the phases of study, analysis and diagnosis prior to writing the restoration project, we carry out both the architectural study (functional, constructive and formal) of the historical building and its historic and stratigraphic study; unifying them into a unique models of “behaviour”. Methodologically, the analysis and previous study phases of the building must be dealt with the recognition of this double condition of historic buildings: the “**synchronous**” approach corresponding to the building in its current configuration –just as we receive it from the past- understood as a functional architectural body with specific functional, constructive and formal characteristics and with particular pathologies; and the “**diachronic**” approach which will study it as an object resulting from a complex process of transformation over time.

To establish comprehensive models of analysis, I would like to focus your attention first on the structured way Viollet-le-Duc raised the analysis and study of architecture, starting from the individualized analysis of materials and their union in constructive elements. Viollet-le-Duc, understood that architecture is an organism built from the union of a determined number of materials and that, from this union derives its fundamental aspects, shape, architectural style,

Graphic 7. Previous studies for restoration



composition, spaces, light, typology, structure balance, etc. This manner of studying and understanding historical architecture, based on the individualization of materials, is newly claimed in the proposals of Paolo Marconi in the *“Manuali del recupero italiani”* and the ARCO magazine. In our work at the Cathedral of Vitoria, we have superimposed this way of understanding the architectural analysis of a building, starting from the identification of the material and the stratigraphic analysis of its construction.

7. The restoration project

The restoration work which we will undertake within the historic building represents the last step of this process of transformation of the building in time, and it will happen repeating the already described mechanisms. The project will be promoted if the society believes that the building breaks with the necessary functional, constructive or formal terms. In order to adapt to the new conditions, the building must be transformed, following the elimination, conservation and overlapping of materials steps that we have already described. Necessarily, any transformation of an architectural structure involves an alteration of the constructive “order” of the building that has reached us, and, therefore, involves the transformation of its historical reading and while providing of a new “constructive stratum”. Simultaneously, the materialization of this project will involve the construction of a new architecture, which will have to satisfy the conditions and demands that

drove its implementation and that will necessarily change the reading and understanding of the transformed architectural object.

The restoration project must define which materials are removed, which materials are conserved, in which conditions these must be conserved and how will be the input of new materials over the historic structure, with the goal of adjusting it to the functional, constructive and formal conditions. However, we find that the conserved structure, due to its architectural value and its status as historical document will impose limits to the proposed transformation. We cannot ask a historic structure to be compatible with certain uses or an image or a constructive or structural work that involve the destruction of its historical or architectural values. To preserve those values, the transformation must be undertaken following a strict and specific methodology in each of the phases (elimination, conservation and overlapping) that we have already defined.

The elimination phase (-). The first condition of this phase is its irreversibility. The historical and architectural damages which may be caused by the realization of this phase require us to act with extreme caution. By removing materials from the structure, not only are we destroying the historical associated value of the eliminated materials, but we also destroy the stratigraphic relationships that these materials have with those which are to be kept. The elimination phase of the historic building materials will always occur with the impoverishment of historical and documentary

THE RESTORATION PROJECT

The restoration is the last phase in the process of transformation of a building through time

(-) Which materials do we eliminate?

(=) Which materials do we conserve and which treatment do we apply for guaranteeing its conservation?

(+) Which materials do we add?

- Which characteristics and qualities will they have?
- How will they overlap the conserved ones?

value of the building and, consequently, it will be the architectural and historical assessments of the building that will establish the specific limits to it. In order to be able to project the elimination, it will be necessary to have previously defined the transformation process of the building. Each building material must be included in a specific Stratigraphic Unit (SU) and this SU must have a concrete temporal ascription assigned. To establish this process, at this stage it might be wise to plan for an archaeological “excavation” of the building, in order to discover hidden materials and elements which would allow us to establish the stratigraphic sequence correctly. Methodologically, the “excavation” of the building should be carried out following an archaeological methodology, following stratigraphic levels, and dismantling each SU. However, the built and architectonic nature of the historic building will require, in most cases, that the removal takes place following the constructive elements rather than the stratigraphic ones. To allow the archaeological development of restoration works, removal of debris, demolition, dismantling, pits, and earth movement units must be assigned an archaeological status and be developed with the methodology imposed by this science.

The conservation phase (=). After the removal of materials, the restoration works should be carried out on the remaining materials, which will have to be integrated into the projected action. These materials will have suffered from the environmental conditions and the passing of time, and may have altered their original qualities and condition. In this phase it will be necessary to study the recovery treatment that will allow us to recover as much as possible the conditions

and the original qualities of the materials and to articulate the protection measures to eliminate the alteration causes or indirectly, the actions that the environment exerts over these.

The conserved materials will be somehow the pillar were the materials provided by the restoration should be “situated”. In the same way that in a new floor project an exhaustive knowledge of the pre-existing conditions (ground, geography, access, urban facilities, etc.) where the new building will be placed is required, in restoration we must know the materiality of the object (the historic building) where this will be executed. In this phase we must measure and establish the monument’s geometry; study the materials characteristics and their physical and chemical characteristics; define how they make up to form the different constructive elements and how these compose the architectural structure, finally establishing its global behaviour as an architectural mechanism. In this phase of the intervention, we should act over the materiality of what exists, measuring, rehearsing, knowing and finally consolidating and protecting it.

The superposition phase (+). In this phase new materials will be incorporated over the existing ones until the completion of the projected transformation of the historic building. Through this transformation process, the newly introduced materials will be situated in the most external levels of the new structure, superposed to the historic materials that may remain hidden. In addition, by being situated in the most external and visible levels of the building, they will necessarily have an important presence in the historic building, therefore the complete functional,



Fig. 6. New grille in the church of Santa María de Melque. The metal rods indicate all the previous holes from preceding grilles.

formal and constructive compatibility between the historic object and the additions we made will be essential.

At the functional level, the functions for which the building was erected must be conserved, unless the development of this function makes it incompatible with the former structure. . In the case the original function of the building has disappeared or has no sense in at the present moment, we should look for alternatives that are compatible with the dimensions and the typology of the preserved building. The search for the functional rehabilitation of historic constructions must not be imposed as a restoration priority, since the implantation of incompatible uses will necessarily have to be performed sacrificing historical or architectural values of the building. In addition to the regular use of the building, we should allow a social and cultural use, essential for its heritage condition. In our times, in which cultural tourism uses are having an undisputed social importance and an important incidence in the economic development,

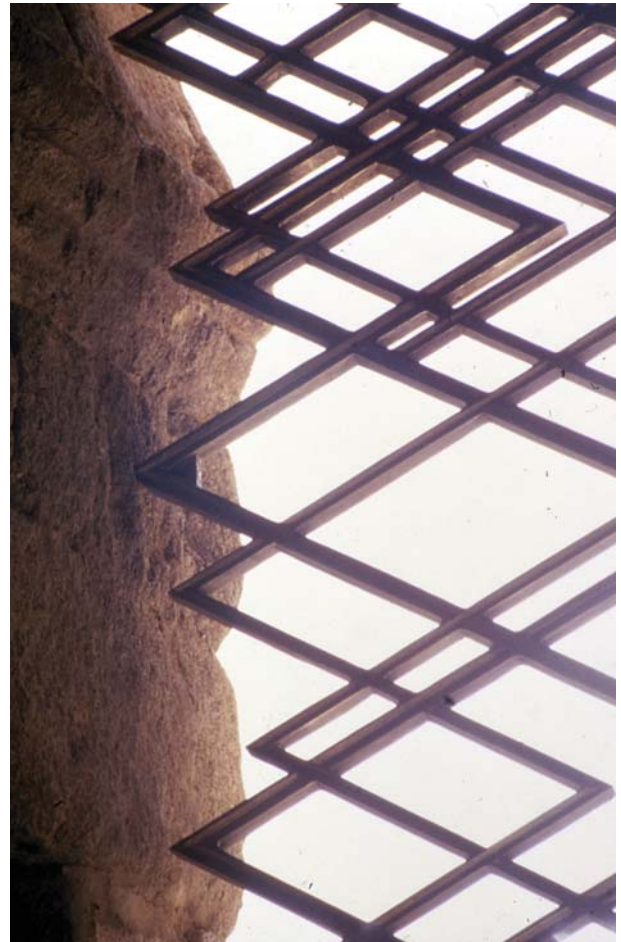


Fig. 7. Jamb with old holes and the new grille. Restoration project by Latorre y Camara, arquitectos.

we believe that adaptation for visitors and a didactic exhibition are sufficient to fill the restoration work with a functional content..

At the constructive level, the projected restoration solutions must not alter the constructive and structural systems inherited from the past and we should always run away from solutions that rigidify, solidify and turn into monolithic structures an architecture characterised by mass and pushing forces, that are far away from rigid joints systems and monolithic structures imposed by modern architecture and its mandatory rules. Therefore, the answer to restoration can only be based on a thorough analysis of the architectural object and of the constructive techniques developed on its structure, to always search for solutions that are constructively compatible with them. We believe that we must search for solutions that reinterpret the constructive solutions of the past allowing simultaneously its compatibility with the ones used on the building and its identification with our historic moment.



Fig. 8. Restoration of the church Santa María de Melque, Toledo, Spain. Restoration project by Latorre y Camara, arquitectos.

In the formal level, the historic buildings are highly symbolic. This is due to the relationship between the shape of the building and its users. This relation between shape and people is directly linked to the memories and personal experiences developed in the building or in its surroundings. We have to assume

that the disappearance of a shape is always linked to the death of a memory, normally intense and related with people who are specially loved. Therefore, there is always a resistance and a social opposition to accept any change or formal transformation that can arise with restoration, and we must find a solution that is



Fig. 9. New stairs to access to the Cathedral of Santa María de Vitoria, Spain. Restoration project by Latorre y Camara, arquitectos.

compatible with the existing shape of the building even if it is inadequate and anachronistic. From this point of view we must understand the social requirements to return in the same place and with the same shape, especially significant buildings that have collapsed. The popular Italian phrase “com’era, dov’era” that extended to require the restitution of the “Campanile di Venezia” must be situated and understood in this particular context, however much Cesare Brandi describes it as “pastiche” -which indeed it is-. We cannot imagine in any other way the restoration that would result of the ruins of the Leaning tower of Pisa that, with absolute certainty, would be recovered with its leaning consolidated in the memory.

Parallel to this, and following the thread of the discourse of this confidence, we do not believe that we must address the restoration of historical architecture with preconceived approaches. It is as useless to pretend to recover the original shape of the ruined structure as freezing, in a particular moment, a shape that is usually in continuous transformation.

In the first case, it is more than doubtful that we can recover a shape or a construction that has disappeared in time and is associated to a disappeared society and culture. As much information we can deduce from the preserved ruins and from the existing documentation, our interpretation of the absences and losses in the historical buildings will always be subject to our capacity to interpret such data. In turn, the objectivity and validity of these data will always be distorted by the image and the knowledge that exist for that moment in history, which inevitably gives our interpretation a strong dose of subjectivity.

In the second case, we know that the conservation of a ruined building is almost impossible as well as pathetic. We cannot prevent the action of time over an architectural structure without isolating it from the environment in which it is situated. The action of the environment over the building is so destructive that this can only respond to the aggression by continuously transforming, replacing and repairing the degraded materials and construction for adapting it to the functional transformations required of him. Without this necessary renovation and transformation of the materials and the structure of the building, the latter would end up becoming a ruin and abandoned until its disappearance. The shape of the elements built during the restoration should be different to the ones already existing in the building but compatible with them. We believe that restoration must provide

the building with a new shape, deduced from the conserved one.

8. Conclusions

To sum up, we believe that at the time of approaching the restoration project, we must have always present that this object stratified in time is, simultaneously, an architectural object under a process of degradation and transformation that is unstoppable and before all irreversible. We cannot close our eyes and simply deny the building its right to transform with the society that hosts and uses it; our duty is to give response to the formal, constructive and functional demands of the society that has fostered the intervention, correcting the detected deficiencies and projecting an intervention that allows us to recover its architectural integrity. We must not forget that the transformation that we are going to produce on the building it no other than the last link of the transformation process we have already described and it repeats the mechanisms with which its constructive stratification is produced. Our restoration work will be the last step of the transformation process that will safely continue after our intervention until the building is abandoned and becomes a ruin, or is demolished and its trace disappears.

Sadly, nostalgia is useless and the buildings, like people, not matter how much make up we put on them, or how many liftings we make, will never recover their youth. It is a trivial and a useless effort to pretend to recover a shape, a construction, a use and a society that, inevitably has disappeared. The building may resemble what it was in its youth, but we will never know that and nor should we care. Restoration has to give answers to the formal, constructive and functional demands of the society that has promoted it, providing the monument with a quality and a unity as an architectonic structure that, safely, has never existed, guaranteeing simultaneously the transmission to the future of all its documental and historic value.

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Fig. 1 Et-Taiyiba village in Ramallah, Palestine

CONSERVATION POLICIES IN PALESTINE: A CRITICAL REVIEW

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The attempt in this paper is to hold a critical review by conducting an excavation into two decades of conservation policies in Palestine that have been previously directed by NGOs with donors' financial aid.

Keywords:

Palestine – heritage – policies – conservation – archaeology

1. INTRODUCTION

An accurate analysis over the subject of conservation and awareness of cultural-archaeological heritage requires going beyond the recurrent idea of the systematic external destruction and placing the discussion deeper into the Palestinian courtyard. Palestinians have more than 15 years of work in conservation - a good ground to conduct this discussion over and an inherent call to bear more responsibility in determining priorities and agendas in conservation.

The first part of the paper addresses the subject of traditional architecture, which has been considered under the discipline of the Ottoman archaeology. This particular field study was influenced by the Ethno-archaeological approach and Processualism throughout the 1980s (GLOCK, 1994; NEGEV, GIBSON, 2001: 51). Subsequently, a presentation of the NGOs' trends active in the field since 1994 to the present day (AMIRY and BsSHARA, 2007: 70-72).

The second part is a diagnosis of the objectives and historical circumstances which led to the transition between the two eras (Hanafi and Tabar 2004, 215). From the 1980s and 1990s up to the present time, a significant shift was noticed in how researchers approached the subject of traditional architecture. There are several articulations or landmarks of the shift, primarily the political shift "Palestinian Entity or PNA"

(KHAN, 2004: 8), which determined the transition of the subject from the academic environment to the NGOs environment.

The third part goes toward an assertive analysis, presenting thematic frames and examining the implementation of conservation policies with focus on the practice of these policies in the restoration and rehabilitation process of traditional architecture.

2. A DISCUSSION OVER THE TERMINOLOGY AND THE CHRONOLOGY OF 'RECENT PAST'

The discussion over the Recent past as a term and its chronology is still in maturation and debatable. The recent past based chronology in the Middle East and Eastern Mediterranean has been conceptualized or determined by historical archaeologists as the discipline of the Ottoman archaeology. According to Baram: "for the Middle East, the recent past is the epoch when the Ottoman Empire ruled over a region from the Black Sea to the Red Sea, from Mediterranean to the Tigris-Euphrates Rivers" (BARAM, 2009 647). The subject of traditional architecture grew, following the lead of post-medieval archaeology in Western Europe and Historical Archaeology in North America and coastal Africa, towards archaeology of the recent past of the Middle East. Those calls included improving the discipline of archaeology by testing notions in the material record of the recent past, finding the

commonalities in history for national groups that imagined their pasts as separate, and countering the impact of colonialism and imperialism in the region by exposing historical trajectories (BARAM, CARROLL, 2002).

While admitting the view of Baram and Carroll and other contributions in the subject of the recent past and the discipline of Historical archaeology, there is a need to expand the discussion over the term and its chronology onward the Ottoman period/archaeology, for different objective reasons which can be summed in. Already we are closely approaching the completion of a century since the decline of the Ottoman Empire in 1917. In addition, there should be mention of the geopolitical changes that emerged in the Middle East since the demise of the Ottoman Empire, which have not been approached or practiced within the archaeological methods. For instance, in Palestine many studies have been published regarding the British mandate period 1917-1948, the main one belonging to Dove Gavish: *A Survey of Palestine under the British Mandate 1920-1948*. Other related studies introduced the historical geography of Palestine, the mapping system, surveys and cartography and other subjects such as demography, land use and properties between Palestinians and Jewish during the same period. Only few of the studies though represented the archaeological aspect.

The call for using archaeological perspectives as part of the recent past in the Middle East doesn't aim to more entanglement of the field in the current political issues. The implementation of this call is to enable an archaeological interrogation and examination of the recent layers, using material culture, artifacts, excavations, landscape surveys, modern unapplied technologies and multi-disciplinary approaches, where narratives and historical documents lack the full answer for the questions of the humanities in general. One example is the archaeological approach on the war of 1948, from which we have the remains of tens of Palestinian villages. Moreover, the post-1948 period, until the war of 1967, also submits to archaeological interpretation.

3. CONSERVATION POLICIES AND THE NGOS ERA FROM 1994 ONWARD

The major interpretation about traditional settlements from the Ottoman period in Palestine was made by Albert Glock and Ghada Ziadeh-Seely through the

excavation seasons between 1985 and 1987, and the ethnographical study of the Ottoman settlement in Ti'innik village in the West Bank. (Until the 1950's, people of Ti'innik and most of the Near East lived in clusters of single room houses built around an open courtyard which they called ahawâsh. Each cluster (singular is hawsh), which is both an architectural and residential unit, was occupied by members of an extended family. Close residence maintained the close ties of family members which are essential in societies that depended on collective labor in cultivating the land (ZIADEH-SEELY, 1995: 85).

The decline of the Palestinian archaeology program in Bir Zeit University after the murder of Albert Glock, led to a decline of the excavation projects in Tel T'innik and the ethno-graphical research project. However, part of the results of this project from the Ottoman site was published by Ghada Ziadeh-Seely, and the rest of the results are still stored in containers in the institute of Palestinian archaeology at Bir Zeit University waiting for publication.

During the last two decades we have three key contributions illustrating the landscape of Palestine. First one is *The Landscape of Palestine: Equivocal Poetry* (1999), edited by Ibrahim Abu-Lughod and others, with contribution from Edward Said regarding the memory and the space. The second one is the *Conference of the Conservation and Management of Landscape in Conflict Zones*, held in 2007 in Bir Zeit University. The third one is the *WAC Inter-congress*, held in Ramallah in 2009, under the term of *Structural Violence*.

Despite the several contributions related to the landscape of Palestine, the implementation of the protection and the preservation of cultural-archaeological heritage are still focused on single monuments, sites and features, or it is still limited around the restoration projects in selected sites or old towns. Currently efforts are being made by researchers in the fields of archaeology, geography and architecture to adopt the landscape approach toward an agenda for protection and preservation of cultural-archaeological landscape (BARGOUTH, NASER, 2007: 1-2).

Theoretically, the agenda is to re-conceptualize the conservation policies of traditional architecture in the context of the landscape; therefore, the current conservation policies that are dealing with traditional houses as one unit ignore the diversity, contextuality

Fig. 2. 'Abwein village. General view of the old town. Ramallah, Palestine.



and the variety in traditional houses and old towns. The practical side is to apply the documentation techniques before any rehabilitation or restoration process or decision, using unapplied technologies such as GIS, aerial photos, special analysis and remote sensing, etc. On the Palestinian scale, traditional architecture should be approached as representative for the rural communities in the landscape. Peasants acted as architects, contractors and planners at the same time therefore conservations policies must be re-conceptualized and adapted within this context, in order to dismantle the gap between indigenous people and conservators.

4. THE SELECTION AND DE-SELECTION IN RESTORATION AND REHABILITATION OF THE TRADITIONAL ARCHITECTURE

The restoration and rehabilitation process was primarily developed by a number of NGOs in 1991, focusing on



Fig. 3. 'Abwein village. General view of the old town. Ramallah, Palestine.

what was identified as *historical buildings*, without any scientific or professional criteria establishing what makes a building historical or non-historical. Perhaps the chronology of the historical building according to those NGOs is not clear either. It is mentioned in Riwaq Registry of the Historical Buildings that there are 50320 historic buildings in the West Bank, Gaza strip and Eastern Jerusalem (See Riwaq Website).

The observation in this part aims to expose, on one side, the bias selection criteria in conservation, through the restoration and rehabilitation projects that were conducted in many sites or in cores of the traditional centers in the West Bank. On the other side it intends to expose the neglecting of the other buildings because of alternative restoration agendas.

In order to polarized criteria in the restoration process of the traditional buildings, hereinafter the description of six sites, randomly selected in the West Bank, where a number of buildings were restored and rehabilitated.



Fig. 4. 'Abwein village. Dar Sehwil, Eastern restored external wall. Ramallah, Palestine.



Fig. 5. 'Abwein village. General view of the old town. Ramallah, Palestine.

The villages are **'Abwein, Bir zeit, Ras Karkar, Et-Taiyiba, Jifna** in Ramallah district and **Sebastiyeh** in Nabuls district.

The landscape of **'Abwein** village in Ramallah and al-Bireh Governorate contains: 13 water springs, ancient roads system, lime-kilns and archaeological sites such as Kh. 'Ein Musharriqa. The occupation of the site dates back to the Iron Age 1-2, Hellenistic, Roman and Byzantine period. The remains of the archaeological sites are: ruins, structural remains, square towers, and remains of oil presses, burial caves, column drums and rock-cut tombs with decorated façades, land use and the traditional settlement. The traditional settlement of 'Abwein contains ahwash and single traditional houses. The traditional settlement was built in earlier periods: Iron Age 2, Byzantine, Crusader/Ayyubid, Mamluk, and early Ottoman (<http://digitallibrary.usc.edu>).

According to Riwaq's registry 'Abwein has 160 historical buildings, 136 of which are one-floor building and 13 two floor buildings. The structural conditions of 100 buildings are described by Riwaq as "good", 55 buildings are described as being bad structural conditions and 7 buildings are out of use (www.riwaq.org). A restoration was conducted for the Castle of dar Sihweil (chiefdom during the Ottoman period) by Riwaq, the rest of other traditional buildings, just a few yards from the castle, are under destruction threat.

Bir zeit town in Ramallah and al-Bireh Governorate, the landscape of this village contains: water springs, ancient roads system, lime-kilns, archaeological sites, land use and the traditional settlement. The traditional settlement of Birzeit contains ahwash and single traditional houses. The traditional settlement was built on earlier periods Iron Age 2/Persian, Hellenistic,

Site	Periods	Description
Birzeit (old town)	Iron Age 2/Persian, Hellenistic, Roman/Byzantine and Mamluk	Traditional houses, terraces; threshing floors; mosaic pavement.
Kh. Rujm er-Rujman	Iron Age 1?, Iron Age2, Byzantine, Crusader/Ayyubid and Mamluk	Lime kiln; circular structure; watchtower; agricultural terraces; walls.
Kh. Deir el-'Uqban	Byzantine and early Ottoman.	Ruin; structural remains; aqueduct; 2 wine-presses; rock cuttings; columns and column bases; probably a monastery.
Kh. er-Ras	Early Bronze 2-3, Middle Bronze, Iron Age2, Persian, Hellenistic, and Byzantine	Fort 38x59 m; building stones reused in terraces; threshing floors.
Without Name	Middle Bronze and Iron Age 1	A wall; traces of construction; fences; terraces; pottery.
Without Name	Hellenistic, Roman and Byzantine	Several threshing floors surrounded by stone fences; building remains.

Table 1. Cultural-Archaeological Landscape of Birzeit

Site	Periods	Description
Ras Karkar (old town)	Hellenistic, Mamluk and Early Ottoman	Traditional houses
Jebel el-Kurne	Hellenistic	Single building
Kh. 'Ein Aiyub	Hellenistic, Roman, Byzantine/ Umayyad and Early Ottoman	Dismantled ruin; reused building stones in terraces; threshing floors.
Kh. en-Nabi 'Annir	Iron Age 1-2, Persian, Roman, Byzantine/Umayyad and Early Ottoman	Large ruin; well-built terraces with reused building stones; winepress; oil presses; burial caves; Sheikh's tomb; building; two pillars.

Table 2. Cultural-Archaeological Landscape of Ras Karkar

Roman/Byzantine, Mamluk, early and late Ottoman (<http://digitallibrary.usc.edu>). According to Riwaq's registry of the historical buildings, Bir zeit (the old town) has 174 buildings, 46% described by Riwaq in good structural conditions and occupied, 20% are in bad structural conditions and unoccupied, 35% are two-floor houses and 60% are one-floor houses (www.riwaq.org). Khirbet Bir zeit is regarded as one of main archaeological sites in the West Bank due to the excavations seasons that were conducted at the site; the results of the excavations were published in the Journal of Palestinian Archaeology, Vol. 1 and 2, (2000). The restoration project for the old town of Bir zeit, was undertaken by Riwaq.

Ras Karkar village in Ramallah and al-Bireh Governorate, is also known as Ras Ibn Samhan (Chiefdom during the Ottoman period). As for the previous examples, the landscape of this village contains: springs, ancient roads system, lime-kilns, archaeological sites, land use and the traditional settlement (<http://digitallibrary.usc.edu>). According to Riwaq's registry of the historical buildings, there are 27 buildings, 19 are one-floor buildings, 8 are two-floor buildings, 15 buildings are considered in good structural conditions, 11 buildings are considered in medium conditions and one is in bad condition (www.riwaq.org). A restoration project was conducted by Riwaq for Dar Samhan Castle (the Chiefdom during the Ottoman period). The castle is



Fig. 6. Et-Taiyiba village. External wall of the crusader castle. Ramallah, Palestine.

Site	Periods	Description
Et-Taiyiba (old town)	Iron Age 1-2, Persian, Hellenistic, Roman, Byzantine, Crusader/Ayyubid and Early Ottoman	Traditional houses, remains of church; Cru castle; mosaics, one of them inscribed; Byz and Cru basilica.
el-Khadr	Hellenistic, Byzantine, and Crusader/Ayyubid	Church
Kh. Dar Haiyeh	Roman and Byzantine	remains of buildings; oil press parts; many cisterns
Kh. ed-Dis	Iron Age 2, Hellenistic, Roman, Byzantine, Umayyad, Abbasid, Ayyubid and Mamluk	Structures; plastered caves; plastered cisterns; field watchtowers
Without Name	Byzantine	Single building, with two rooms and courtyard
Without Name		Rock-cut dwelling cave; non-diagnostic pottery

Table 3. Cultural-Archaeological Landscape of Et-Taiyiba

surrounded by the other traditional houses (ahwash) under threat of destruction and in bad condition.

Et-Taiyiba village is located in Ramallah and al-Bireh Governorate. The landscape contains: springs, ancient roads system, lime-kilns, archaeological sites, land use and the traditional settlement (<http://digitallibrary.usc.edu>). According to Riwaq;s registry

of the historical buildings there are 188 buildings, 137 are one floor buildings, 46 are two-floors buildings and one is three-floors building; 115 buildings were described as in good structural conditions, 37 are in medium structural conditions, 21 are in bad structural conditions and 15 were unable to be used (www.riwaq.org). The restoration project was conducted for the old town by Riwaq.



Fig. 7. Et-Taiyiba village. General view of the restored houses. Ramallah, Palestine.



Fig. 8. Sebastiyeh village. Dar el Kaid and the old town. Nablus Governorate, Palestine.



Fig. 9. Sebastiyeh village. The Crusader church. Nablus Governorate, Palestine.

Jifna village is located in Ramallah and al-Bireh Governorate. The village contains: springs, ancient roads system, lime-kilns, archaeological sites, land use and the traditional settlement (<http://digitallibrary.usc.edu>). According to Riwaq’s registry of historical buildings Jifna has 122 buildings, 74 are one-floor building, 29 buildings are two-floors and one building has three-floors only; 109 buildings are described as in good structural conditions, 2 buildings are in medium conditions, 3 buildings are in bad conditions and 1 building is not able to be used (www.riwaq.org). The restoration project was conducted for the crusader fort in the old town.

Sebastiyeh village is located in Nablus Governorate, with water springs, ancient roads system, lime-kilns, archaeological sites, land use and the traditional settlement (<http://digitallibrary.usc.edu>). However, Sebastiyeh is considered as an archaeological park in Palestine. According to Riwaq’s registry of the historical buildings there are 183 buildings, 118

buildings are one-floor, 63 buildings are two-floors, and 133 buildings are still in use and 44 buildings abandoned; the structural conditions for 114 buildings were described as good, 17 are in medium structural conditions, 45 are in bad structural conditions and five are not able to be used (www.riwaq.org). Riwaq restored El-Kaid castle (chiefdom during the Ottoman period), and the rest of other traditional houses under vanishing and destruction process.

5. CONCLUSION

The past is a problematic subject in the conflict regions generally, and so are its mechanisms of reconstructing the discourses and the interpretations. For young archaeologists practicing archaeology in one of the contested regions, it is essential to keep in consideration two main aspects. The first one concerns the ethical frame in the field as regards the matter of selection in conservation and awareness of

Site	Periods	Description
Jifna (old town)	Hellenistic, Roman, Crusade, Ayyubid, Mamluk and Early Ottoman	Two Byz churches; fortress, prob. Cru; structural remains; rock-cut burial caves; cisterns; sarcophagi, one decorated; capitals.
El-Muneitrah	Middle Bronze, Iron Age 1-2, Hellenistic and Byzantine	Large heap of stones; terraces
Without Name	Middle Bronze, Hellenistic, Roman and Byzantine	Heaps of stones; pottery; threshing floors
Without Name	Middle Bronze, Hellenistic, Roman and Byzantine	Heaps of stones; walls
Without Name	Byzantine	Square structure

Table 4. Cultural-Archaeological Landscape of Jifna

Fig. 10. Sebastiyeh village. The Crusader church and the mosque. Nablus Governorate, Palestine.



Site	Periods	Description
Sebastiyeh (old town)	Roman, Byzantine, Umayyad, Abbasid, Crusade, Ayyubid, Mamluk and Ottoman	Traditional houses, Cru church, cisterns; rock cuttings
Sebastiyeh	Early Bronze 1, Iron Age 2, Persian, Hellenistic, Roman 1-2, Byzantine, Mamluk and Ottoman	Tell
Sebastiyeh	Early Bronze 1, Iron Age 2, Persian, Hellenistic, Roman 1-2, Byzantine, Mamluk and Ottoman	Tell; Byz churches; Herodian colonnade; hippodrome; IA casemate fortress with a palace and reservoir structure; IA burial cave; Hel fortifications; Rom city wall; western gate; temples; forum; basilica;
Kh. el-'Aqil	Mamluk	Terraces; structural remains; dressed building stones
Kh. Manahas	Byzantine, Umayyad and Abbasid	Small ruin: walls; building stones incorporated in terraces
Kh. el-Babariyye	Iron Age 1-2, Persian, Hellenistic, Roman 1-2 and Byzantine	Large ruin; burial cave
Kh. el-Lawz	Byzantine	Small ruin; building foundations and building stones in secondary use; cisterns; burial caves.
Without Name	Roman	cistern; walls; caves; two ritual baths

Table 5. Cultural-Archaeological Landscape of Sebastiyeh

cultural heritage. The second one is about redefining priorities, which, in the fieldwork, should be directed following the agendas of the conservators parallel

with the agendas of the local communities and their needs.

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INTERNET WEBSITES

1- <http://www.riwaqregister.org/en/default.aspx>

2- <http://digitallibrary.usc.edu/wbarc/map.html>



Fig. 1. Pergamum Museum, Berlin, Germany

VIRTUAL TECHNOLOGIES (or not) FOR DISSEMINATION

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Virtual technologies have burst onto the scene of heritage dissemination and they are giving way to new strategies and methods for the transmission of knowledge. However there is a real risk in the use of these technologies when they are not properly applied. The present paper reflects on the correct use of the technology for heritage dissemination and it shows some examples where its applications are, or not, suitable for the purpose of communication.

The fascination of these new tools cannot cancel the real objective of dissemination which is the transmission of a specific cultural message. Any dissemination resource selected must be based on researched facts, specific objectives, clear messages and well-defined categories of public participation.

Keywords:

Virtual technologies – heritage – dissemination – museums – 3D models

1. INTRODUCTION

Heritage has long been an area of specialized knowledge but at the moment, the importance of public opinion and involvement has changed the way in which professionals handle the dissemination of information regarding conservation works.

Traditional signage employed over the years is giving way to new strategies and methods for dissemination and the so-called “virtual technologies” are taking an important role in this field. The possibilities offered by this technology are often quite impressive, but at the same time, we run the risk of being fascinated by them and thus forgetting the main objective: the transmission of knowledge.

One of the more popular and fashionable applications of this technology today are virtual models. These are digital reconstructions of objects, usually simplified, that can be used in a computer simulation or in Virtual Reality presentation format. Museums all over the world are starting to use these kinds of models to explain heritage and more specifically, architectural heritage. However, contrary to popular thought, the idea of “reconstructing” lost reality is not a new concept.

2. RECONSTRUCTING THE PAST. AN OLD HABIT WITH NEW LANGUAGES

Human beings have always tried to investigate and understand great buildings from the past that have now disappeared. We have many examples but can only mention a couple of them here such as the tower of Babel, the Great Ziggurat of Babylon, described in the Bible and by Herodotus and represented many times in art history until the discovery of its ruins by German archaeological excavations conducted by Robert Koldewey after 1913. There is also the famous Lighthouse of Alexandria, which still stood in the 12th century, but completely disappeared at the end of 15th century. It has been represented countless times throughout history as well.

In fact virtual representations are just the contemporary language used to achieve the same objective, that is, the comprehension of the past. Drawings, engravings, watercolours and so on have been substituted by computer graphics, but the intention remains the same.

Instead of pencils or ink, these virtual 3D models are made using specific software where the geometrical, textural and lighting information are included and processed to obtain more or less realistic images (renders), which show us the appearance of the building.

Interestingly, the origin of this type of representation can be traced back to the documentation process at



Fig. 2. Teotihuacan (Mexico). Ars Virtual. Fundación Telefónica, Spain.

the beginning of the 1980s. It is the result of putting together all the data surveyed from the archaeological sites to achieve a data file containing all the information available. The second step is immediate: if it is possible to construct a virtual 3D model of the remains including all the data in the computer, it is also possible to introduce hypothetical data relating to a supposed original state and to create that other model.

3. 3D MODELS APPLICATIONS

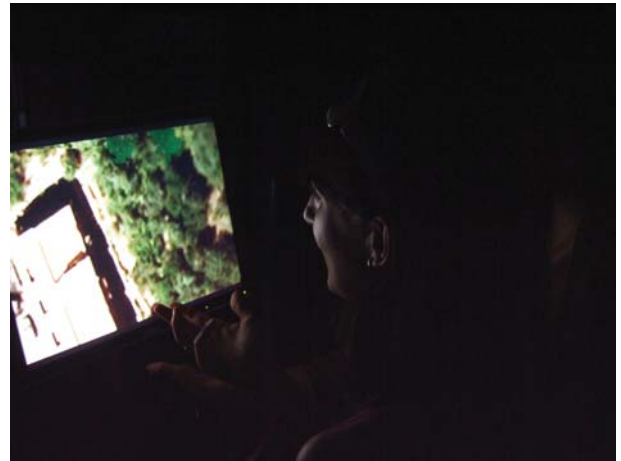
From the very beginning the virtual 3D models have been useful in explaining the hypothesis of the researchers (FORTE, 1997), first in a simple way and with greater depth of complexity with the passage of time. The evolution of these technologies has led to more modern techniques such as the 3D scanner laser which allows an incredible fast survey of objects and sites with a huge cloud of points. In this particular



Fig. 3. Teotihuacan (Mexico) Collection of pictures.



Villa di Livia. Virtual application in the Museum of Diocletian, Rome, Italy. The room with four individual workstations is often empty. The green workstation (on the right) does not work.



User trying to manage the application without success.

instance the representation is only possible for the current state of the object or site, and for the time being it is often quite useless for dissemination purposes applied to architectural and urban scales due to the exaggerated amount of information (points) that make the required output data quite unmanageable. However it is an extraordinary tool for reduced scale works of art (MESSINA, 2008), especially in risk zones where saving time in the survey means also reducing the threat of harm for the professionals working on the projects.

Focusing again on 3D models as representative of the original states of the object or site, possibly the most interesting application of this type of representation is called “augmented reality”, that is, a view of a physical real-world environment whose elements are merged with (or augmented by) virtual images from the 3D models thus creating a mixed reality. The final evolution of this technology will allow us, for example,

to visit archaeological sites and to see the virtual reconstruction in its real position (FRISHER, 2002, VLAHAKIS, 2001). However the equipment required for this application is not currently very functional although it is making fast progress.

Therefore, at present one of the more popular uses of 3D reconstructions are the on-line (i.e. internet based) real-time models which lets the user navigate inside the virtual space while generating images fast enough to give the sensation of movement. The main problem of these real time models is the excessive simplification of details in the execution and the low quality of textures and lighting in order to allow the rapid generation of imagery. In this case the question is whether it would be better to use a good collection of pictures and/or videos to explain the site instead.

In addition, these models more frequently represent the current states. Often these representations do



Fig. 4. Wooden model representing Ishtar gate and Babylon walls. Pergamon Museum, Berlin, Germany.



Fig. 5. People surrounded the wooden model in the room of Ishtar gate and Babylon walls. Pergamon Museum, Berlin, Germany.

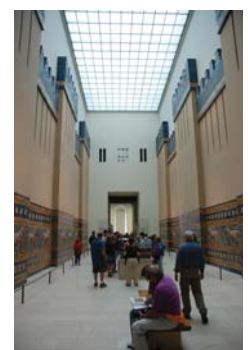


Fig. 6. General view of the hall. Pergamon Museum, Berlin, Germany.

not promote further research or investigation for additional information on the object or site to justify the economic efforts that go into such representation. Furthermore, the possibility of navigating through an inaccurate model may result in a reconsideration about whether or not to employ this technology.

Another interesting research direction is the inclusion of metadata within 3D reconstructed environments, which should be easily handled by the public, but for the time being these types of applications have management and maintenance problems due to the constant failures of the workstations. Also, their use is not always easy for every type of public.

Nevertheless, virtual reconstructions are quite useful when applied in clarifying the different historical phases of a building. Most historic structures have more than one construction stage and 3D models enable us to obtain images from each historic moment, explaining the evolution and comparing those stages without touching the remains (ALMAGRO GORBEA, 2005; GONZÁLEZ GARRIDO and FERNÁNDEZ RUIZ, 2002).

The production of 3D models is also very useful for testing different solutions for restoration works, such as the construction of new shelters.

4. DISSEMINATION INSIDE MUSEUMS AND ON ARCHAEOLOGICAL SITES

Obviously these technologies have a great appeal when used in dissemination and many museums and archaeological sites have quickly incorporated technological devices to improve the interpretation of their collections.

But what is really happening in the museums? The Pergamon Museum, probably the most important museum in Berlin, includes among its collection one of the most astonishing remains of ancient history: the Ishtar gate and the Babylon walls. These remains are exhibited inside a vast elongated hall where there is a wooden model of the walls in their original state as well. This model is located in the middle of the room with the same orientation as the remains; it is therefore very useful for visitors who may compare the current conserved walls with the reconstruction, to better understand the exhibition. In fact the model is always surrounded by people trying to comprehend the structure, making comments on their impressions and explaining to each other their opinions on the structure, given the pedagogical nature of this tool used by the museum.

Within the same museum, in the room of Greek sculptures, a different dissemination resource was selected to explain Roman baths, using a virtual reconstruction.

The setup consists of a large display screen, which is visible to all visitors. The display is controlled by a touch screen pad which guides visitors through the application. There are also “hot points” on the touch pad to enable users access the different spaces in the layout by selecting a hot spot. The 3D model appears in the large display screen and the spectator can visit the virtual site in real time and simultaneously get specific information from the touch screen control terminal about the spaces represented in it.

Independently of the low quality of the model, which is lacking in textures or lighting to create a friendly representation of the architecture, the reality is that nobody seems to be interested in the display or

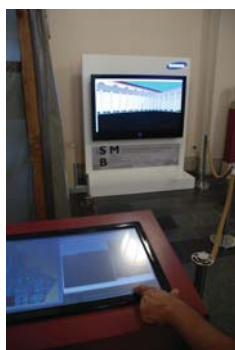


Fig. 7. Touch screen pad and large display screen of the application, Pergamon Museum.

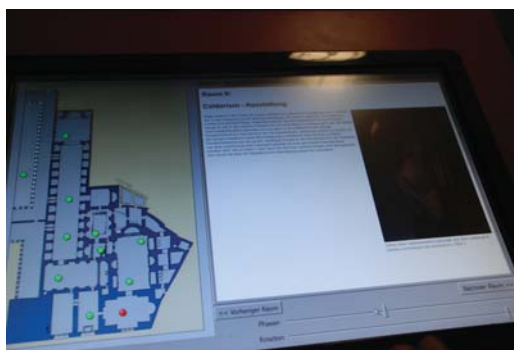


Fig. 8. Control screen terminal of Roman baths reconstruction. Pergamon Museum in Berlin.



Fig. 9. Virtual image of one of the space represented in the application. Pergamon Museum in Berlin.



Fig. 10. Interactive video screening at the Altes Museum in Berlin, Germany.



Fig. 11. Children controlling the application with the mouse at the Altes Museum in Berlin, Germany.

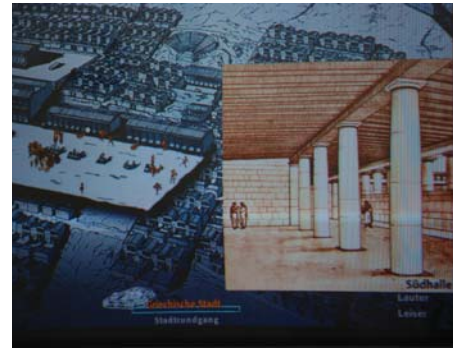


Fig. 12. Short video activated by public from the Altes Museum in Berlin, Germany.

application. Perhaps it is difficult to use or too much of an individual tool, but the fact is that people do not pay attention to the device.

While at the same time the wooden reconstruction of Babylonian walls is constantly surrounded by people. In fact, all the models inside the museum capture much more public attention, and particularly, they seem to attract elderly visitors' interest.

The museum also includes other types of technological applications, such as interactive terminals where visitors may obtain information based on their individual interests and preferences. They are mostly consulted by younger visitors, although there is no great demand for them.

The video screening however, has better reception from all categories of visitors, although children often quickly loose attention. This is why an intermediate

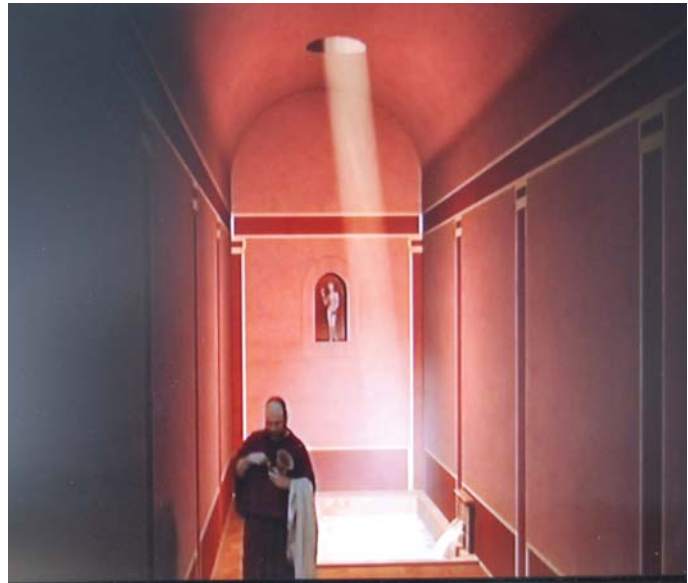
solution such as interactive video screening is a better solution for all groups of visitors to the museum. There is an application of this type of technology at the Altes Museum in Berlin. The display is located in an isolated area with seats for spectators and it is controlled with a simple mouse. A drawing of an ancient Greek city appears on the screen and the public may select one of the buildings by clicking on it. Each structure has a short simple movie attached to it, explaining its main features. Interestingly, the application is controlled more by children while adults and elderly people just watch the information on the screen.

Therefore it is quite evident that there are important differences in interaction and appreciation among the various categories of visitors, which are usually based on age groupings. Adults and elder people are not usually technologically-minded and prefer to learn through activities that involve showing and telling, that is passive systems. They also require good seating, accessibility and in the case of using



Fig. 13. Archaeological remains of the Roman forum of Segóbriga, Spain.

Fig. 14. Representation of Roman frescoes which does not follow known Roman standards. Alhama Baths, Murcia, Spain.



virtual models, realistic visualization. Just as the European Renaissance perspective was completely incomprehensible for the Chinese, who have a totally different representation system in referencing the same historical period, so elderly people do not

usually understand the virtual reconstructions. They do not appreciate the space or the dimensions and often perceive the image as an abstract figure made of many colours.

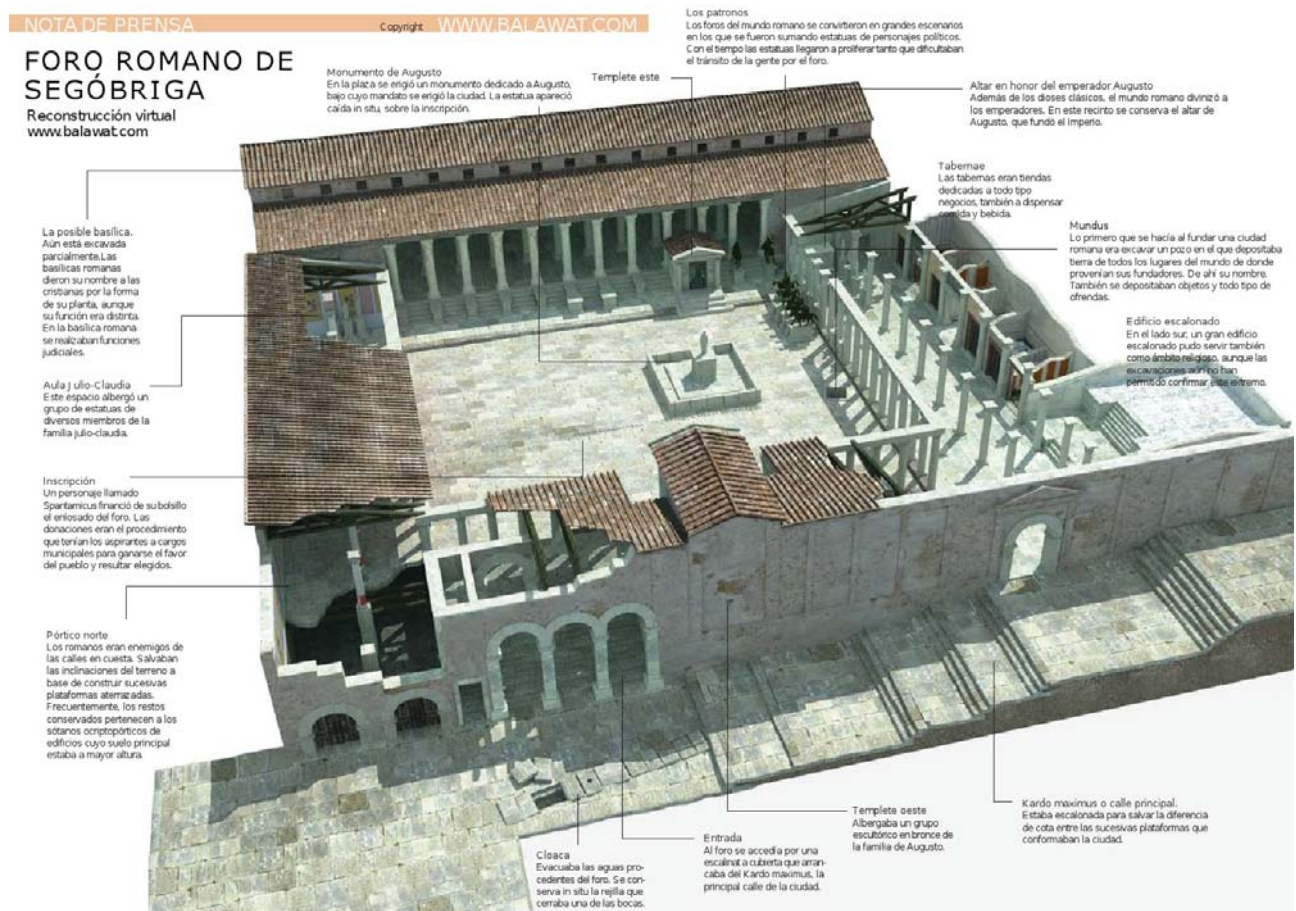


Fig. 15. Virtual reconstruction of the Roman forum of Segóbriga by the private company "Balawat" (BALAWAT, 2005).

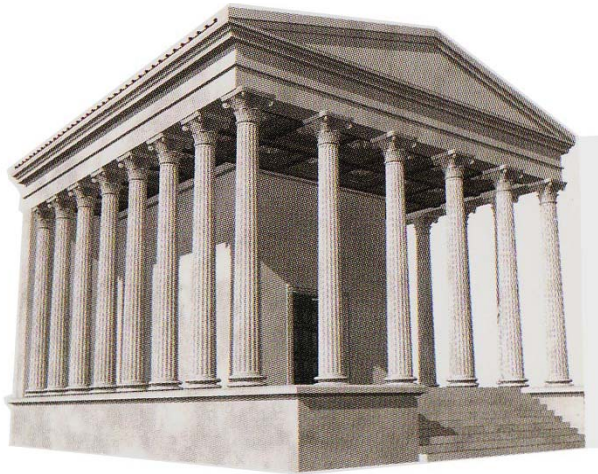


Fig. 16. Roman republic temple with an excessive distance among columns. In this case, existing and reliable sources (Vitruvius III, 3, 4) were visibly not consulted (AA.VV., 2004: 59)

However younger spectators like to determine what they do by themselves. Indeed, they tend to prefer to do things in their own order and require movement and frequent changes of activity, i.e. active systems. They are completely accustomed to virtual visualization thanks to video game graphics and they know perfectly well how to navigate inside virtual worlds.

But the most important question here is **how much information can they really get?** Are they just playing? Because a child moving through a virtual application is not necessarily learning about what he is watching. To make sure children gain the knowledge of the intended message, there is a need for an additional strategy. For example it is possible to introduce activities that compel them to pay attention to the information from the virtual reality. These activities could be designed as educational activities coordinated with schools or activities that challenge the children to teach their parents who are not familiar with these types of tools how to use them.

This then generates another vital question **when is a 3D model useful?** Usually these models are considered as dissemination tools, which means they are used at the end of the process to explain to the public the results of all the research. However since a virtual reconstruction is a 3D design, it also plays a strong role in checking the hypotheses of researchers with regard to the original state of the architecture, according to the evidences. They have the characteristic of showing the mistakes and forgotten points when virtually portraying the whole structure.

Nevertheless, the interpretation of archaeological sites is probably one of the best applications for virtual reconstructions. The biggest challenges for research teams in dissemination of data from archaeological remains is how to clearly convey the original state of buildings that disappeared centuries ago, and for most of which only the foundations still remain visible. Until now, the interpretation of most sites relied on the ability of designers to prepare drawings, in order to present the existing information. In some other instances, the projects have gone further by actually



Fig. 17. Virtual image of a Muslim street from the 13th century in Granada with some mistakes such as urban vegetation or the large section of the street, which is in fact much narrower in reality. (NEOSMEDIA, 2009)



Fig. 18. Physical model of the market in Mexico-Tenochtitlan. Field Museum of Chicago, USA.

reconstructing parts or the totality of the remains (STANLEY-PRICE, 2006) as a “didactic tool for visitors”.

At present with 3D models it is possible to “virtually” reconstruct the structures, without “touching” the remains and to extract images from every point of view, which may be included in interpretation panels strategically located all over the site, to help visitors to understand the ruins. In these models it is also possible to explain constructive aspects of the buildings, or to include furniture to clarify their function as well. The “virtual” insertion of finds extracted from the archaeological excavations in the appropriate contexts is also an interesting application. And from the model it is possible to prepare videos and more elaborately

detailed materials, to show in the interpretation centres at the sites, which have been created at many sites over the last two decades. Good quality materials greatly improve and enrich these centres.

5. VIRTUAL RECONSTRUCTIONS, A RIGOROUS PRODUCTION PROCESS

There is an important point of consideration when making virtual reconstructions of historic buildings. When these models are not made by heritage specialists, it is necessary to have a constant supervision mechanism. A virtual reconstruction is a 1:1 scale model and every detail needs to be

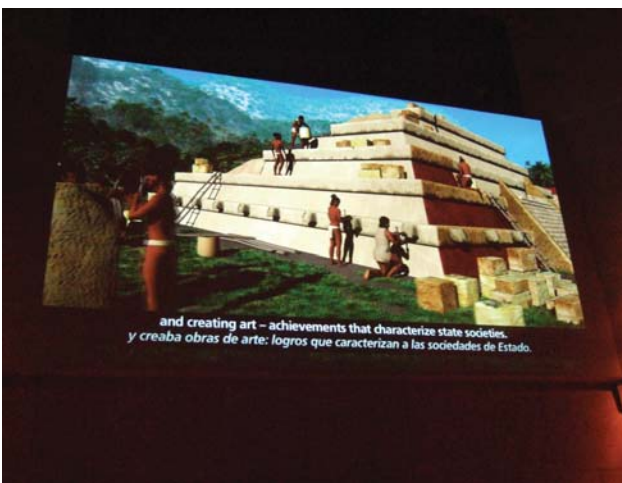


Fig. 19. Video on Zapotec construction of buildings. Field Museum of Chicago, USA.

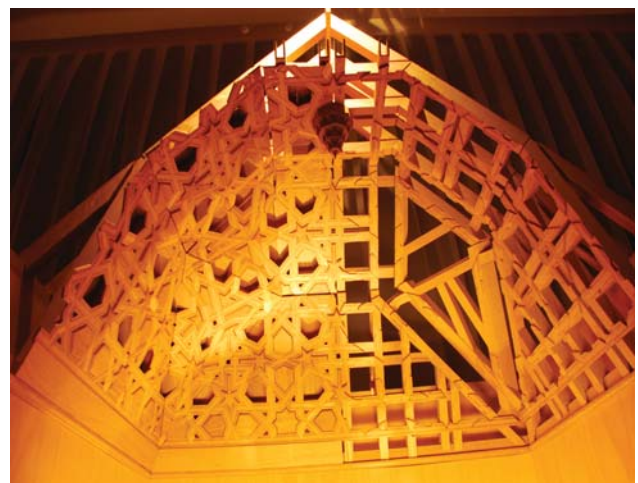


Fig. 20. Islamic ceiling model made in wood with construction details. Science Museum of Granada, Spain.

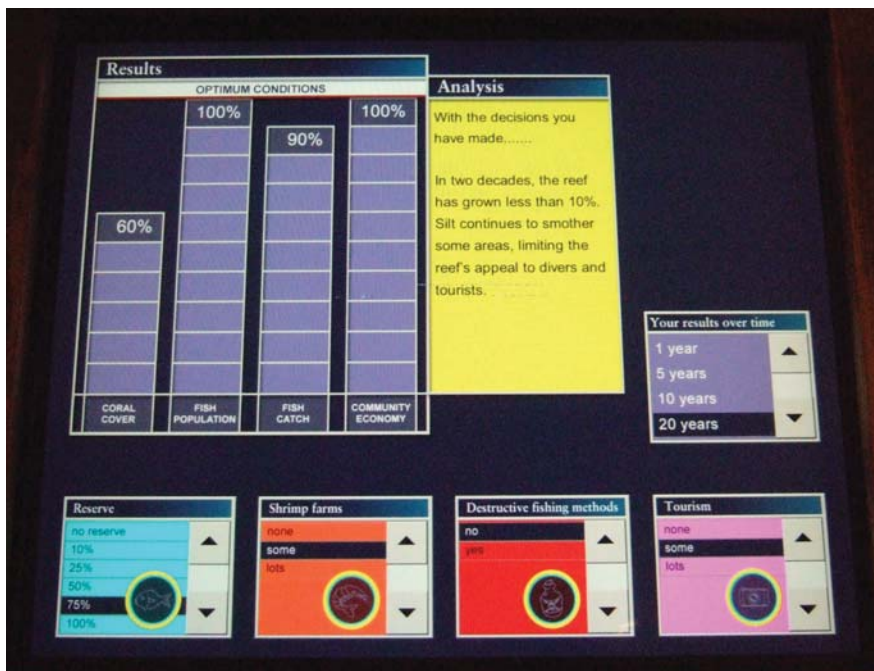


Fig. 21. Computer application for evolution assessment of a coral reef. The user determines different conservation parameters and the computer assesses the results after 1, 5, 10 or 20 years. Aquarium of Chicago, USA.

defined. If researchers do not supply the complete documentation for every part of the structure the person developing the model will. He will likely invent the missing information, whatever it is because he cannot leave a gap. Sometimes these “gaps” affect the decoration and others concern the structure or other historical aspects such as the environment or the objects inside, but the message may then being seriously altered, even if unconsciously, which may affect more or less the accuracy of the knowledge passed on.

Virtual reconstruction can be a very powerful tool for dissemination due to its visual impact, and it is therefore very important to guarantee rigorous detailing on the models. The “levels of fidelity” in the interpretation need to be perfectly clear for spectators, which also means finding the best ways to explain what part of the representation is hypothetical and what is precisely documented. This clarification might be made using text, images, voice-over (in the case of videos) or whatever means, according to the selected dissemination resource. Finally, when the existing data are not enough to correctly define the model, probably the right choice will be not to make a 3D model, but to use a different dissemination tool.

6. CONCLUSIONS: THE RIGHT RESOURCE

Dissemination of information from every project requires detailed and complete scientific research, the

appropriate technology and pedagogic dissemination. The latest advances in technologies, when applied to cultural properties, sometimes fascinate research teams and people in charge of communication. But it is necessary to accurately determine when a new technology for dissemination is useful and when it is not. It is also important to decide the right resource, depending on the receptor of the information or categories of the target audience. Scholars and visitors with special interests will probably require publications with the sources and scientific references and commentaries. On the other hand, the general public will possibly need simpler explanations, visual information, interaction or data through inquiries instead of direct information because human nature is naturally inclined to curiosity about hidden details. Finally, technologies will have to be adapted to each specific type of spectator or visitor.

Sometimes excessive use of technology leads to confusing and useless messages, which represents a waste of economic resources and creates a psychological barrier or distance for the more elder visitors. However at other times, technology gives us the perfect tool to clearly explain our ideas. Therefore we first need to determine the main message, that is what we want to tell the public and then decide the appropriate resource, technological or not, which in turn depends on the subject. For example functional or typological messages may be comfortably explained with “physical models” since the virtual models have technical, and consequently economical difficulties in



Fig. 22. Polychrome projections over the façades in Cathedral of Amiens, France.

creating believable environments. Historical messages may rely on a video format to better express this kind of information, and since virtual reconstructions allow recreating environments and moving through them, they may be of great use in this case. Constructive or structural issues are commonly well explained with wooden models. For increased public awareness, well prepared technological applications may allow people to learn through playing with the application as a means of familiarizing themselves with the information. For example, extracting instantaneous statistic conclusions from management decisions on conservation might be very useful. Iconographic or formal messages can use technology in very interesting ways, such as the polychrome lighting projections made over the façades in the Cathedral of Amiens in France or the Cathedral of Vitoria in Spain.

Virtual reality has interesting applications but, until now, these applications have been often of an individual nature and most of the time uncomfortable. However, the functionality of these tools will likely improve in the future, but anyway we will always need

to re-appraise our exhibitions and sites interpretation. Dissemination today depends more and more on creativity and new tools bursting onto the scene but it must always be based on complete research, specific objectives, clear messages and well-defined categories of public participation. Otherwise we will waste the effort and the knowledge will disappear in the big gap between our intention and their attention.

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Fig. 1. Duncombe Park, Yorkshire, UK

MY FAVOURITE BUILDING

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My favourite building had, over a period of some five years in the late nineteen-nineties, become a close but rather enigmatic friend. I say that my favourite building is a building, but one could consider it more as a structure, or even perhaps an ornament. It became my friend because it was one of several buildings which were the subject of a research project I was conducting at that time; I visited it regularly.

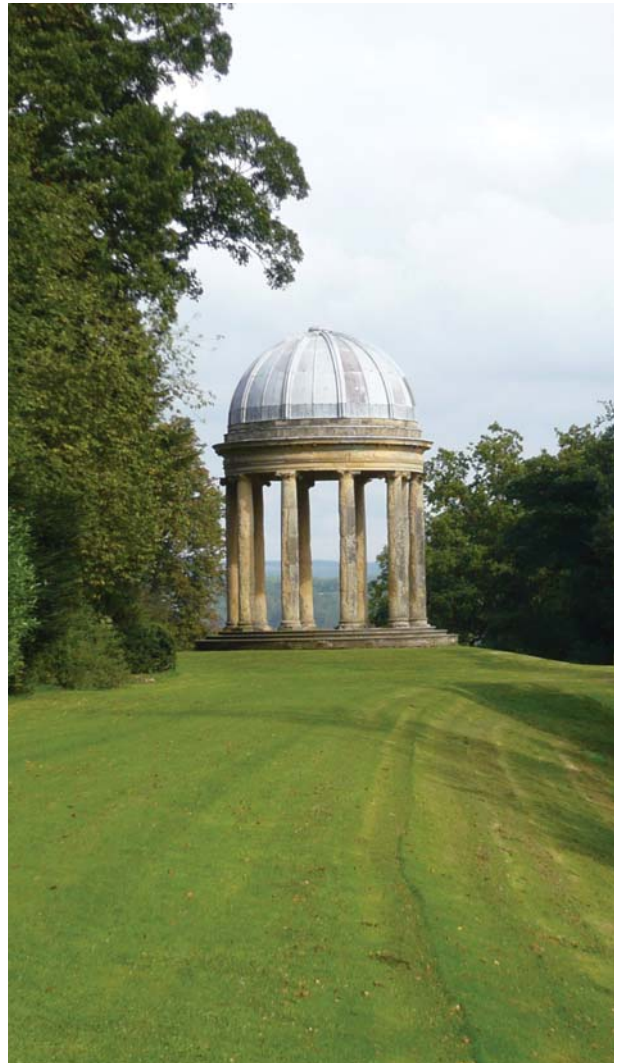
My favourite building can be found close to the North Yorkshire market town of Helmsley. As one crosses the bridge over the river Rye and approaches Helmsley from the south, a turning on the left leads to a broad driveway ascending an incline through open pasture land. Towards the top of this driveway my favourite building can be found situated in an elevated position amongst trees, standing almost as a sentinel to what lies beyond. This is, in my mind, the sentinel of Duncombe Park, an early eighteenth-century designed landscape associated with one of the most important Baroque houses in Northern England. The house was built for Sir Thomas Duncombe in about 1710 and is ascribed to William Wakefield, whose work was influenced by Sir John Vanbrugh. Vanbrugh, the soldier, political prisoner, playwright and renowned amateur architect whose finest works are perhaps Castle Howard and Blenheim Palace, is also credited with the design of my favourite building.

It is built of stone; it is modest in scale; it is elegant in form and it dates from the 1730s. It is an open rotunda comprising ten un-fluted Ionic columns supporting a

frieze and cornice, surmounted by a lead-clad domed roof; it is believed to be based on the design of the Temple of Vesta at Tivoli near Rome. Its importance is that it is a key element in the designed landscape of Duncombe Park, and the site of the house was undoubtedly chosen for its landscape potential. The designed landscape incorporates a curved, turfed, terrace on elevated ground, with contrived views down the steep valley sides to the river Rye below and to the surrounding countryside beyond. The terrace is backed by woodland, so as to isolate it from the house, and its layout and the design of the views is in the tradition of the Picturesque. At each end of the terrace stands a temple on a promontory from which there are also contrived views into the surrounding countryside. At the southern end stands the Tuscan Temple and at the north, my favourite building, the Ionic Temple – an object in a landscape.

The Picturesque in landscape design was inspired by travellers of the seventeenth and eighteenth centuries making the Grand Tour of Europe, and in the process crossing the Alps and encountering the Apennines where the terror and horror of rough tracks vertiginous precipices, jagged mountains peaks and wild remote countryside had to be endured as part of that experience. But it is not just the picturesque that is at play here, for it is the experience of the sublime which is sought too. That experience is one of fear but without mortal danger which Edmund Burke so eloquently explored in his *Philosophical Enquiry into*

Fig. 2. Domed temple in the gardens of Duncombe Park, Yorkshire.



our ideas of the sublime and the beautiful of 1754. It is the same experience which the guests at Duncombe Park would have experienced on their visits to the terrace and the Ionic Temple from where there are glimpses of the jagged outline of the ruins of Helmsley Castle beyond the woodland trees, and the cascades on the River Rye in the valley far, far, below.

The significance of my favourite building is that it is an object in a landscape which is believed to have been designed with the assistance of Charles Bridgeman. He was a landscape designer considered to have had a pivotal role in the transition from the formal geometric designs of the late 1600s to the freer designs of William Kent, Humphrey Repton and Lancelot (Capability) Brown. So this is an early example of Picturesque/sublime landscape design in England, and is part of a fashion which would eventually permeate many layers of the arts, including music, painting, and literature. It is a fashion of the time that is epitomised in the imagery created in the literature of Horace Walpole, Ann

Radcliffe, Jane Austen and that quintessential English romantic poet William Wordsworth, as well as in those fiery tempestuous paintings of William Turner. These works have, in my view, conditioned the way in which we perceive landscapes, and particularly wild 'natural' landscape, and there is a strong argument to support the view that there is implicit in the Picturesque a perception which is now deeply embedded in British culture.

I mentioned that my favorite building is an enigmatic friend. I say enigmatic because my favourite building raised more questions for my research than answers – but that is the way of research. Perhaps more importantly, it is not known for certain that it was designed by Sir John Vanbrugh, nor that it was modeled on the Temple of Vesta, the date and provenance of which seem to be equally obscure. Nor indeed is it certain that the house was designed by William Wakefield, nor that the landscape design involved the hand of Charles Bridgeman, because in

1879 the House at Duncombe park was destroyed by fire, along with much of the family archive, although the house was subsequently rebuilt to the original design by William Young.

So what insights into the past might my friend conceal, whose stones have long been washed by the tides of humanity, if I may borrow from John Ruskin, and has stood as silent witness to the passage of time and circumstances at Duncombe Park for almost three

centuries? My modest, enigmatic friend; my favourite building.

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